

## IN THE CLAIMS

What is claimed is:

- 1   **1.**    A semiconductor integrated circuit, comprising:
  - 2                    an inductor on a substrate;
  - 3                    a first metal layer inside the inductor when viewed from a direction
  - 4                    perpendicular to a surface of the substrate, a lower surface of the first metal
  - 5                    layer being no higher than a lower surface of the inductor;
  - 6                    a ferromagnetic substance layer on the first metal layer, a lower
  - 7                    surface of the ferromagnetic substance layer being lower than an upper
  - 8                    surface of the inductor, an upper surface of the ferromagnetic substance layer
  - 9                    being higher than the lower surface of the inductor; and
  - 10                  a second metal layer that covers an upper and side surface of the
  - 11                  ferromagnetic substance layer, an upper surface of the second metal layer
  - 12                  being no lower than the upper surface of the inductor.
- 1   **2.**    The semiconductor integrated circuit of claim 1, wherein:
  - 2                    the ferromagnetic substance layer is divided into a plurality of parts
  - 3                    that are separate from one another when viewed from the direction
  - 4                    perpendicular to a surface of the substrate.
- 1   **3.**    The semiconductor integrated circuit of claim 1, further including:
  - 2                    a multilayer interconnection layer on the substrate; and

3                   the inductor and a laminated film are formed on an uppermost layer of  
4                   the multilayer interconnection layer, the laminated film comprising the first  
5                   metal layer, the ferromagnetic substance layer, and the second metal layer.

1   **4.**    The semiconductor integrated circuit of claim 1, wherein:

2                   the inductor, first metal layer and second metal layer comprise a metal  
3                   selected from the group consisting of copper and aluminum.

1   **5.**    The semiconductor integrated circuit of claim 1, wherein:

2                   the ferromagnetic substance layer comprises nickel.

1   **6.**    A semiconductor integrated circuit, comprising:

2                   an inductor on a substrate; and

3                   a ferromagnetic substance layer that does not overlap the inductor and  
4                   surrounds a majority of the inductor when viewed from a direction  
5                   perpendicular to a surface of the substrate.

1   **7.**    The semiconductor integrated circuit of claim 6, wherein:

2                   the ferromagnetic substance layer completely surrounds the inductor  
3                   when viewed from the direction perpendicular to the surface of the substrate.

1   **8.**    The semiconductor integrated circuit of claim 6, further including:

2                   a multilayer interconnection layer provided on the substrate; and

3                   the ferromagnetic substance layer is formed in a layer selected from  
4                   the group consisting of the same layer as the inductor and a layer adjacent to  
5                   the inductor.

1   **9.**       The semiconductor integrated circuit of claim 6, wherein:  
2                   the ferromagnetic substance layer comprises nickel.

1   **10.**     A semiconductor integrated circuit, comprising:  
2                   an inductor on a substrate; and  
3                   a plurality of separate ferromagnetic substance layers arranged in a  
4                   radial fashion around a center area of the inductor on a different level than the  
5                   inductor.

1   **11.**     The semiconductor integrated circuit of claim 10, wherein:  
2                   each ferromagnetic substance layer has a strip-like shape and is  
3                   disposed longitudinally in a direction from the center area of the inductor  
4                   toward a periphery of the inductor.

1   **12.**     The semiconductor integrated circuit of claim 10, further including:  
2                   a multilayer interconnection layer provided on the substrate; and  
3                   the ferromagnetic substance layers are formed in a layer different from  
4                   and adjacent to a layer containing the inductor.

1   **13.**    A semiconductor integrated circuit, comprising:  
2                    an inductor formed on a substrate;  
3                    an insulator layer the covers the inductor;  
4                    a ferromagnetic substance layer formed on the insulator layer over a  
5                    center portion of the inductor; and  
6                    a pad, formed from a same layer as the ferromagnetic substance layer,  
7                    situated in a different region of the semiconductor integrated circuit than the  
8                    inductor.

1   **14.**    The semiconductor integrated circuit of claim 13, wherein:  
2                    the ferromagnetic substance layer covers essentially all of the inductor  
3                    when viewed from the direction perpendicular to a surface of the substrate.

1   **15.**    The semiconductor integrated circuit of claim 13, further including:  
2                    a multilayer interconnection layer provided on the substrate; and  
3                    the ferromagnetic substance layer and the pad are formed on an  
4                    uppermost layer of the multilayer interconnection layer.

1   **16.**    The semiconductor integrated circuit of claim 13, wherein:  
2                    the ferromagnetic substance layer comprises nickel.

1   **17.**    A method of manufacturing a semiconductor device, comprising the steps of:  
2                    forming a first metal layer on a substrate;

3                   selectively forming a ferromagnetic layer on portions of the first metal  
4           layer;  
5                   forming a second metal layer that covers the ferromagnetic layer;  
6                   patterning the first and second metal layers to form a lamination film  
7           that includes the first metal layer, the ferromagnetic layer, and the second  
8           metal layer; and  
9                   forming an inductor, that surrounds the lamination film, from at least  
10          one of the layers of the lamination film.

1   **18.**   The method of claim 17, further including:

2                   before forming the first metal layer on a substrate,  
3                   forming a recessed portion in the surface on which the lamination film  
4           is to be formed, the recessed portion having a depth less than the total  
5           thickness of the first metal layer and the ferromagnetic layer combined.

1   **19.**   The method of claim 17, further including:

2                   the ferromagnetic layer comprises nickel.

1   **20.**   A method of manufacturing a semiconductor device, comprising:

2                   forming an inductor on a substrate;  
3                   forming an insulator layer that covers the inductor;  
4                   forming a film of a ferromagnetic substance on the insulator layer;  
5                   patterning the film of the ferromagnetic substance to form a

- 6 ferromagnetic substance layer over a central portion of the inductor; and
- 7 forming a pad from the film of the ferromagnetic substance in a region
- 8 that is not over the inductor.